content. Although the program metadata may include a subject matter description that mentions different subjects addressed by the program, this description and the time and duration data correspond to the program as a whole, rather than to individual segments within the program. For example, referring to **FIGS. 1 and 2**, it is seen that the guide and banner provide description that indicates that the program "Business Day" includes content relating to "CEO Jeffrey Jones" and to the travel industry, but from this the viewer cannot know, for example, the specific times at which these segments are presented, or whether a particular segment is upcoming or has already been show.

[**0012**] Television programming distributors must attract viewers in order to sustain their advertising rates, and significant resources are invested in producing and obtaining the right programming content to attract the right viewers. However, as the amount of content grows, viewers are often presented with many concurrent attractive viewing options. The granularity provided by conventional interactive program guides and interactive program banners is coarse, owing to the coarseness of the data from which they are generated. This makes the most desirable content difficult to locate and places limitations on the viewer's ability to access all desirable content. For example, a viewer who sees a subject of interest in the description of a program cannot determine where in the program that subject is addressed, or whether it has already passed or is about to start soon. Similarly, a viewer may see two programs in the same time slot that are both of interest, but because he does not know when the particular segments of interest will be presented, the viewer may be forced to change back and forth between channels in an attempt to catch both, and may miss one or both in the process. Or the viewer may simply choose one program and forego the other. Similar limitations are imposed with respect to the other features typically provided by interactive program guides. A viewer may see the description of a program and decide, for example, that he would like to schedule a reminder for the program because he is interested in one of the topics that the program addresses. However, a reminder coinciding with the beginning of the program may be of little use if the segment that the viewer is interested in will not be presented until some unknown time later in the program. Similarly, the viewer may see two programs in the same time slot, each covering a topic that would both be desirable to record. However, if the user is limited to making only a single recording at any given time and can only schedule the recording of whole programs, then one program must be chosen over the other, even if the particular portions of interest are presented at non-overlapping times. Thus both the viewer and the programming distributor are denied an optimal viewing experience.

SUMMARY OF THE INVENTION

[**0013**] Embodiments of the invention provide enhanced interactive program guides, interactive program banners and related features through the use of individual program segment metadata that provides descriptive and timing information for individual segments of television programs. Such program guides and program banners can provide detailed information to the viewer about individual program segments, such as descriptions of individual segments, the time and duration of individual segments, and the location of individual segments within the program. The display format of this information and the user interaction that produces the display of this information may be implemented in a variety of manners.

[**0014**] The program guides and program banners may also perform a variety of actions with respect to individual program segments, such as tuning directly to a program segment from a program segment listing in the guide, scheduling of reminders for an individual program segment from its listing in a guide or banner, initiating or scheduling the recording of an individual program segment directly from its listing in a guide or banner, filtering of the program guide on an individual segment basis, finding programs and program segments like a given program or segment through reference to the characteristics of the given program or segment, and updating viewer preferences through reference to the characteristics of a given program or program segment. The program guides and program banners may also include viewer interest level information indicating a level of viewer interest in programs and individual program segments determined using the program and segment metadata and stored viewer preferences. Viewing habits may also be tracked on an individual program segment basis.

DESCRIPTION OF THE DRAWINGS

[**0015**] **FIG. 1** shows features of a conventional interactive program guide;

[**0016**] **FIG. 2** shows features of a conventional interactive program banner;

[**0017**] **FIG. 3** shows an example of conventional television program metadata;

[**0018**] **FIG. 4** shows an example of program and program segment metadata in accordance with an embodiment of the invention;

[**0019**] **FIG. 5** shows an exemplary configuration of a metadata creation and distribution system;

[**0020**] **FIG. 6** shows an exemplary architecture of a video receiver device in accordance with a preferred embodiment of the invention;

[**0021**] **FIGS. 7***a* and **7***b* show typical user commands for an interactive program guide and actions taken by a video receiver device in response to those commands in accordance with an embodiment of the invention;

[**0022**] **FIGS. 8***a* and **8***b* show features of an interactive program guide in accordance with a first embodiment of the invention;

[**0023**] **FIGS. 9***a* and **9***b* show features of an interactive program guide in accordance with a second embodiment of the invention;

[**0024**] **FIGS. 10***a* and **10***b* show features of an interactive program guide in accordance with a third embodiment of the invention;

[**0025**] **FIGS. 11***a* and **11***b* show features of an interactive program guide in accordance with a fourth embodiment of the invention;

[**0026**] **FIGS. 12***a* and **12***b* show typical user commands for an interactive program banner and actions taken by a video receiver device in response to those commands in accordance with an embodiment of the invention;